BRUHAT BENGALURU MAHANAGARA PALIKE

Executive Engineer - Road Infrastructure Division

NAME OF WORK : Providing junction improvement works under SURAKSHA-75 in Arterial and Sub Arterial roads at Summanahali Junction, Kengeri Bus Terminal Junction, Nice Road Kengeri Road Junction & Jayanna Circle at Kenchanahalli Road in RR Nagara Zone

SECTION 9 : BILL OF QUANTITIES.

SL.No	Description of Items	Unit	Qty
1	Dismantling of Flexible pavements Dismantling of Flexible pavements and disposal of dismantled materials and stacking serviceable and unserviceable materials separately I) By Manual Means, Bituminous Course	Cum	384.33
2	Dismantling kerb stone Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and lead	m	1205.00
3	Earth work excavation by manual means for drains, canals, waste weir, draft, approach channels, key trenches, foundation of Buildings & bridges and such simillar works in all kinds of soils, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.In all kinds of soils Depth upto 1.5 m	Cum	938.48
4	Earth work excavation for Foundation by mechanical means for all works & depth upto 3 m, as per drawing and technical specifications,including setting out, shoring, strutting, barricading, caution lights,including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenaces required to complete the work	Cum	510.37
5	Providing and laying 100mm thick pre-cast cover slabs over Road side drains / utility ducts / Rain water harvesting pit of width not exceeding 1000 mm using M20 concrete reinforced with TMT bars Fe 550 @ 6kg/m2, slabs jointed in CM 1:3 proportion and nicely finished Including providing holes in the Cover slabs wherever necessary for easy drain age of surface water including of labour, materials, scaffolding, usage of machinery, curing, lead and lift charges etc, Complete.	Sqm	1045.60
6	Providing and Fixing precast slab of 250 mm thick using M20 Cement Concrte including cost of all materials, labour, curing, trasportation, loading and unloading etc, complete and as per the direction of Engineer In Charge	Sqm	148.50
7	Removing & Resetting of Footpath Slabs	Sqm	652.40

8	Providing and laying in position Cement Concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing, and all the other appurtenances required to complete the work as per technical Specification Mix 1:3:6 Using 20 mm nominal size graded crushed coarse aggregates)	Cum	88.56
9	Providing and laying in position Cement Concrete for all Foundation works. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticizers laid in finished layers, well compacted using needle vibrators, including all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all the other appurtenances required to complete the work as per technical specifications. M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	Cum	79.64
10	Ready Mix Concrete (RMC) with Cement & Cementitious Materials. Providing and laying in position Ready Mixed or Batch Mixed concrete as per IS 10262 mix design procedure for Cement Concrete works in all types of Structures other than Road works, using coarse aggregate and fine aggregate derived from natural sources, Ordinary Portland Cement (OPC) @ 75% & GGBS @ 25% proportion, admixtures to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the Engineer-in-charge	Cum	130.97
11	Steel Fabrication. Supplying, fitting and placing TMT FE 550 / 550D Steel Reinforcement including cost of all materials, machinery, labour, cleaning, straightening, cutting, bending, hooking, laping/welding joints, tying with binding wire / soft annealed steel wire and other ancilary operations complete as per drawing and technical specification.All other type of structures	Tonne	9.48
12	Providing and laying flooring and steps fine dressed granite stone slabs 40 mm thick on cement mortar bed 1:6, 25 mm thick, and pointed with cement mortar 1:3 over existing cement concrete bed , including cost of materials, mortar, labour, curing complete as per specifications.	Sqm	108.60
13	Providing and laying Black Lapotra Granite stone flooring in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-charge.	Sqm	154.80
14	Supplying and fixing M15 grade precast cement concrete Kerb stones for Roadway, Sidewalls and gutters fixed with CM 1:3 fixed and finsihed in line as per direction of Engineer in charge. (The cost of PCC shall be paid extra). 300 x 300 x 150 mm size	Mtr	1930.00

15	Providing and laying 80mm thick factory made precast M -30 grade Cement Concrete Paver block as per IRC SP 63: 2018 & IS 15658 for Commercial Traffic Axle load repetitions upto 10MSA & for Residential Streets of approved shape and colour, laid in required pattern and including over 40mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (WMM/WBM Base to be paid separately as per relevant technical specification)	Sqm	3575.50
16	Prestressed Precast Concrete Pavements Providing and laying in place 300mm x 300mm x 16mm cement tactile directional and warning tiles (for a person with visual impairment) of the approved brand and make and specified colour for outdoor floors such as footpath, courtyard, multimodals location etc. laid on 20mm thick base of cement mortar 1:4 (1 cement: 4 coarse sand) in all shapes and patterns including grouting the joints with white cement with matching pigments etc. complete as per as per standards.	Sqm	429.00
17	Providing and laying Reinforced Cement Concrete pipe light duty NP2 for culverts, roadway utilities& crossingsas per IS 458:2003 in Single row including pointing ends and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing completeas per specifications. 300mm Dia	m	294.00
18	Providing and fixing Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works including cost of materials, labour, usage charges of machinery complete as per specifications and as per directions of the Engineer-in Charge.	kg	537.20
19	Removing & Resetting existing Heavy Duty Cobble/Interlocking stones/Pavers of thickness 60/75/80/100mm using Cement and 40mm thick sand bed (average thickness) and compacting with plate vibrator to achieve final desired compaction & setting of paver to its final level , including cost of materials, labour and usage charges of machinery complete as per specifications. (The cost of new paver/ stones required shall be added separately)	Sqm	440.00
20	Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	Sqm	1118.00
21	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density	Cum	900.70
22	Providing and Supplying of Sadrahalli Grey Granite bollards of height 0.9m and width of 4.5m width, cut to required shape including cost of all materials, Labour, transportation etc	No	140.00

23	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 60 cm circular	No	37.00
24	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 90 cm equilateral triangle	No	62.00
25	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 80cm*60cm rectangular	Cum	6.00
26	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.	Cum	2649.75
27	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless,tough,skid resistant, material with property of attain- ing 2mm thickness in single coat application white(or as required colour)based on glass and colour retaining acrylic cross link- ing resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35 - 2015 clause 2.2)	Cum	1148.88

28	Supplying and Fixing of **Molded Shank Raised Pavement Markers / Cat's eye** made of polycarbonate and ABS moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 +/- 2 mm and with minimum reflective area of 13 cm2 on each side and the slope to the base shall be 35 +/- 5 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30+/- 2 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.The contractor shall submit a two year warranty for satisfactory field performance including stipulated retro-reflectance of the reflecting panel, to the Engineer.	No	2005.00
29	Supplying & fixing of **Solar Raised Pavement Markers** made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face in passive mode. The marker shall support a load of 20000 kg tested in accordance to ASTM D 4280. The marker should be resistant to dust and water ingress according to IP 65 standards and should withstand tempertures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typicl frequency of blinking is 1 Hz. There should be current losses of less than 20 microamperes at 2.4 V in sleepcharging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive and complete as directed by the Engineer	Sqm	413.00
30	Providing and applying tack coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom	Sqm	15998.00
31	Bituminous Concrete Grading I for using > 20 MSA Providing and laying Bituminous Concrete with 100 TPH capacity hot mix plant batch type using crushed aggregates of specified grading, premixed with bituminous binder VG-40 @ 5.2 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects.	No	643.16
32	Providing and laying 100mm thick factory made precast M -40 grade Cement Concrete Paver block as per IRC SP 63: 2018 & IS 15658 for Commercial Traffic Axle load repetitions more than 10MSA upto 20MSA for Industrial Streets, Bus & Truck parking of approved shape and colour, laid in required pattern and including over 40mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (WMM/WBM Base to be paid separately as per relevant technical specification)	Cum	162.00
33	Providing and fixing of Cuddapah slab 2.5cms thick	t.km	4.59

34	Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects.	Sqm	44.60
35	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.) including cost of materials, labour, usage charges of machinery complete as per specifications and as per directions of the Engineer-in-Charge.	Kgs	12411.75
36	Providing and laying Permeable Cement Concrete Paver Block for Pedestrian Footpaths of approved shape and colour, laid in required pattern and including over 30mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-chief	Sqm	365.00
37	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x100x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications.	Sqm	240.00
38	Fabricating, supplying and erection of ... ms long hot dip Galvanized Conical hot dip Pole with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/s for .....m Pole in single section and single joint welded as per IS 9595/IS10178AWS having dimensions bottom ..... mm , top ... mm with 3 mm thick, suitable base plate and 4Nos of.....long J bolts along with template and the Pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended. 9 m - Top 75 mm and Bottom 165 mm dia	Nos	55.00

39	Supply of LED pole mounting type post top lantern with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/ clear glass material, delivering superior light outputRated life Burning Hrs 50000 hr@ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire >IK08. Power Factor>0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/1 EC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB LED Efficiency>1301m/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part Warranty of 2 Years against anymanufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.	Nos	55.00
40	Fixing charges of post top/ Gate/ Garden fitting /LED on the existing CI / GI or any other pipe using required size of reducer, wiring using suitable wires	Nos	55.00
41	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall.50 mm nominal dia Pipes	Mtrs	450.00
42	4 Core, 16 Sqmm, 30 No GI Wires (1.6 mm)	Mtrs	2100.00
43	LABOUR for Aerial Bunched Conductor & Accessories. Stringing of 11 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size 3x95 Sqmm + 1x70 Sqmm with Insulated Messenger Wire	Mtrs	2100.00
44	Digging of Pit 1.8 Mtr depth for errection of 9 to 10 Mtr Long Steel/RCC/PSCC supports as per approved Drawing. Hard rock (By Chizling and/or wedging	Mtrs	1300.00
45	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 3C X 4Sq.mm Copper Flexible	Mtrs	300.00
46	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40 mm dia 2.9 mm thick 2.5m long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400 mm with a cast iron cover. The earth electrode shall have staggered holes of 12 mm dia and the electrode should be covered 150 mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	Mtrs	3.00
47	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required. 25mm x 3mm GI Patti	Rmt	15.00

48	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS 13947. (Icu = Ics) Three Pole- 200Amps 36kA.	Each	3.00
49	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. 6-32Amps TPN	Each	6.00
50	Supply Good Quality of Red soil for Gardening and Growing of plants ,Shrubs ,Etc., including the % weightage given to BBMP Area	Cum	465.08
51	cleaning the site by scraping and removing top layer of soil, removing unwanted debris, grass, along with execavated earth to a distance of 500m from the spot, including lead, lift loading and unloading charges (1x1x0.15m) **1st Digging For Lawn**	Sqm	1900.00
52	Earthwork digging including removing weeds. Debris if any and breaaking of clumps watering etc.m to a depth of **2nd Digging For Lawn**	Sqm	1900.00
53	Digging for second time and removing weeds if any miner leveling to a depth of 0.45m **Soil Filling for Lawn**	Sqm	1900.00
54	Supply and Stocking good quality red earth etc., for filling the top layer to a depth of 0.15m {1x1x0.15m}	Sqm	1900.00
55	Providing Sand, FYM and Red earth in the ratio of 1:3:6 and spreading to depth of 7.5 cm at the required site **sand (0.075 Cu.m/Sq.m) Rs. 10.87** **FYM (0.0225 Cu.m/Sq.m) Rs. 23.19** **Red earth (0.04 Cu.m/Sq.m) Rs. 19.74** **Chemical Fertilizer**	Sqm	1900.00
56	Super Phospates (50 gm/Sq.m:Rs. 0.1.00/Sq.m), Neem oil cake (250gm/Sq.m), Bone meal (250gm/sq.m: Rs. 4.00/Sq.m), Potash (50 gm/Sq.m: Rs. 1.00/Sq.m), Furodon (25gm/Sq.m: Rs. 2.00/Sq.m), Ammonium Suphate (100 gm/Sq.m: Rs. 2.00/Sq.m) **Supply of Lawn grass** **Bermoda**	Gm/ Sqm	1900.00
57	Supply of Lawn grass BBMP Bermoda grass	Sqm	1900.00
58	Other Charges: cost towards dibbling laying of lawn inclusive of mixing of ingradients, application of manure and spreading (5x5 Cm) **Specimen plants**	Sqm	1900.00
59	Digging pits size 0.75mx0.75mx0.75 filling up to 50% the pits with top excavated soil and remainging 50% with sand, Fym, Red earth (0,021 Cum) (ie in the proportion of 1:2:3) and **Yucca Specious Silver (90cm - 150cm ht)** including cost of plant, materials, transporation and handling & planting cost).	Each	20.00
60	Digging pits size 0.75mx0.75mx0.75 filling up to 50% the pits with top excavated soil and remainging 50% with sand, Fym, Red earth (0,021 Cum) (ie in the proportion of 1:2:3) and **Plumeria Pudica (150cm - 240cm ht)** including cost of plant, materials, transporation and handling & planting cost).	Each	105.00
61	Digging pits size 0.75mx0.75mx0.75 filling up to 50% the pits with top excavated soil and remainging 50% with sand, Fym, Red earth (0,021 Cum) (ie in the proportion of 1:2:3) and **Plumeria Singaporensis dwarf (60cm - 90cm ht)** including cost of plant, materials, transporation and handling & planting cost). **Plants**	Each	25.00

62	Developing the area for shurbs by digging to a depth of .45m, filling 50% with sand (0.0375 cum), FYM (0.075 Cum), Red earth(0.21), (i.e, in the proportion of 1:2:3) and Planting with well established plant (8 plants per Sqm) exclusive of coat of plants and inclusive of ingredients)	Sqm	165.00
63	Cost of Plant	Nos	55.00
64	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge	Cum	5.65
65	Supplying, filling, spreading &leveling gravels of size range 5 mm to 10mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer in-charge.	Cum	3.77
66	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge	Cum	39.38
67	Providing and installing STONE SCULPTURE as per Architect's design of size 0.6m*0.6m*0.6m including carving, fixing, installation with necessary details required , specifications including cost of materials, labours, hire charges of machinaries with all lead and lifts, transportation including loading and unloading, complete as directed by consultants and approved by chief engineer.	No	2.00
68	Loading and Unloading of Stone Boulder/Stone aggregates/Sand/ Kankar/Moorum. (Tipper 18 m3)	Cum	1322.80
69	Cost of Haulage Excluding Loading and Unloading Taking output 18 t load and lead 10 km = 180 t.km 8*10*1.28 (RATE X LENGTH X DENSITY)	Cum	1826.89